Alberta

Traffic Collision Statistics

1995

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1995 Overview

- The number of **traffic fatalities increased 2.0%** over the past year from 395 deaths in 1994 to 403 deaths in 1995.
- The number of **traffic injuries increased 3.5%** over the past year from 20169 injuries in 1994 to 20866 in 1995.
- The number of **traffic collisions increased 0.7%** over the past year from 84640 collisions in 1994 to 85220 in 1995.
- **The highest number of fatal collisions** occurred in **October.**
- **Friday** was the most collision-prone day of the week. However, more fatal collisions occurred on Saturday.
- The most collision-prone period of time was the **afternoon rush-hour.**
- **Casualty rates** were highest for persons between the **ages of 15 and 24.**
- **Male drivers** between the **ages of 16 and 19** had the highest involvement rate of all drivers involved in casualty collisions.
- **Driver error** was recorded for 48.6% of drivers involved in casualty collisions.
- **Fatal collisions** occurred most frequently in **rural areas,** whereas **injury and property damage collisions** occurred more frequently in **urban areas.**
- **15 people** were killed in collisions involving **motorcycles,** compared to the five-year high of 24 in 1993.
- **50.0% of pedestrians** involved in **fatal collisions had consumed alcohol prior to the collision** compared to **13.8% of pedestrians in injury collisions.**
- **20.4%** of drivers involved in fatal collisions **had consumed alcohol** prior to the crash compared to **6.2%** of drivers in injury collisions.
- Collision involved restraint users had a much lower injury rate (13.6%) than those not using restraints (37.3%).

Preface

The purpose of this report is to provide an overview of the "who", "what", "when", "where", "why", and "how" of traffic collisions which occurred in Alberta during 1995. Although the report is general in nature, it pays particular attention to casualty collisions, that is, those collisions which resulted in death or injury. Legislation in Alberta requires that a traffic collision, which results in either death, injury or property damage to an apparent extent of $1000.00 or more, be reported immediately to an authorized peace officer. The officer completes a standardized collision report form which provides information on various aspects of the traffic collision. This report is based on the data collected from these report forms.

The collision report form is issued with standard instructions to every police service within Alberta, to be completed by the officer attending the scene of a motor vehicle collision or at a police station. Police priorities at the scene of a collision are to care for the injured, protect the motoring public and clear the roadway. Completion of the collision report form is a secondary, but necessary task.

After completion, the information on the collision report form is coded for input to computer files. The Alberta Collision Information System, which has been operational since 1978, undergoes several manual and computerized inspections each year in order to ensure maximum accuracy of the final data output. This collision information is used to make Alberta's roads safer for all road users. Due to continuing police investigation, some numbers presented in this report may be subject to revision. It should also be noted that not all percentage columns will total 100 due to rounding error. However, the patterns and trends detailed in this report represent an accurate description of Alberta's traffic collision picture.

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Glossary

Alcohol Impaired - In the judgement of the police officer, driving ability was impaired by alcohol consumption. Whether or not the subject was actually charged is not taken into consideration by the collision report form.

Casualty Collision - A vehicle collision which results in either a fatal or personal injury.

Drinking Driver - Refers to those drivers judged by the police officer as having been drinking prior to the collision or as being alcohol impaired at the time of the collision. Whether or not the driver was actually charged is not taken into consideration by the collision report form.

Fatality - A fatality is the death of a person that occurs as a result of a motor vehicle collision within 30 days of the collision.

Had Been Drinking - In the judgement of the police officer, the driver had recently consumed alcohol but his driving ability was not obviously impaired.

Major Injury - Persons with injuries or complaint of pain that went to the hospital and were subsequently admitted even if for observation only.

Minor Injury - Persons with injuries or complaint of pain that went to the hospital, were treated in emergency (or refused treatment) and SENT HOME without ever being admitted to the hospital. (Also includes people who indicated that they intended to seek medical treatment).

Motorcyclist - Refers to drivers and passengers of motorcycles.

Occupant Casualties - Refers to people who were injured or killed as a result of a vehicle collision and were identified as being either a vehicle driver or passenger.

Property Damage - A vehicle collision which resulted in property damage exceeding $1000.00.

Reportable Collision - A vehicle collision which resulted in death, injury or property damage greater than $1000.00.

Rural - Any area outside of that defined as **'Urban'**.

Urban - Any area within the corporate boundaries of a city, town, village or hamlet.

1995 Traffic Collision Summary

Introduction

During 1995, 85220 collisions were recorded on Alberta roadways. Property damage collisions (over $1000) represented 83.2% (70934) of this total while 16.4% (13958) were non-fatal injury collisions. Fatal collisions accounted for 0.4% (328) of the total reported collisions.

Five Year Trends

The fatality rate, in terms of 10,000 population for 1995, is unchanged from 1994 at 1.5. The fatal collision rate is down slightly at 1.2 from 1.3 last year.

Non-fatal injury collision rates and non-fatal injury rates have increased in 1995. In 1995, the non-fatal injury collision rate, in terms of 10,000 population, stands at 50.8.

In terms of 10,000 population, property damage and total collision rates are down, standing at 258.1 and 310.1, respectively.

Provincial Comparisons

In order to get a clear picture of Alberta's traffic injuries in comparison to other provinces, rates rather than absolute numbers are utilized. In this instance, rates per 10,000 population were examined.

During 1995, Saskatchewan and New Brunswick recorded the same fatality rate as Alberta in terms of 10,000 population. Of the provinces for which information was available for 1995, Alberta had the highest injury rate.

Table 1.1

Alberta Traffic Collisions

1991 - 1995

Severity of Collision	1995	1994	1993	1992	1991
Fatal Collisions	328	352	330	316	359
Non-Fatal Injury Collisions	13958	13691	13133	12661	13646
Property Damage Collisions	70934	70597	71125	72428	84530
Total Reportable Collisions	**85220**	**84640**	**84588**	**85405**	**98535**
Number Killed	403	395	383	368	421
Number Injured	20866	20169	19252	18685	19646
Total Number of Casualties	**21269**	**20564**	**19635**	**19053**	**20067**

Observations

In 1995, the overall number of collisions increased 0.7% when compared to 1994. In 1995, injury collisions increased 1.9% and fatal crashes decreased 6.8%. The number of fatalities increased by 2.0% from 1994 to 1995, and the number of injuries increased by 3.5%. In terms of the past five years, overall collisions were highest in 1991, lowest in 1993 and have increased slightly each year since.

Note:

Due to reporting problems, a small number of 1992 property damage only collisions which occurred in an urban centre were not reported to Alberta Transportation and Utilities. Due to continuing investigation, 1992 figures have been revised from the "Alberta Traffic Collision Statistics 1992" publication.

Table 1.2

Traffic Collision Rates

1991 - 1995

Severity of Collision	Rate Per 10,000 Population*					Rate Per 10,000 Licensed Drivers*					Rate Per 10,000 Registered Vehicles*				
	1995	1994	1993	1992	1991	1995	1994	1993	1992	1991	1995	1994	1993	1992	1991
Fatal Collisions	1.2	1.3	1.2	1.2	1.4	1.6	1.8	1.7	1.7	1.9	1.7	1.8	1.7	1.7	1.9
Number Killed	1.5	1.5	1.4	1.4	1.7	2.0	2.0	2.0	1.9	2.2	2.0	2.0	2.0	1.9	2.2
Non-Fatal Injury Collisions	50.8	50.4	49.3	49.4	54.1	69.9	69.6	67.6	66.0	71.8	70.7	69.8	68.1	66.2	70.4
Number Injured	75.9	74.3	72.3	72.8	77.9	104.5	102.6	99.1	97.4	103.4	105.7	102.8	99.9	97.7	101.4
Property Damage Only Collisions	258.1	259.9	267.2	282.4	335.2	355.4	359.1	366.3	377.5	445.0	359.5	359.8	369.0	378.8	436.4
Total Reportable Collisions	**310.1**	**311.6**	**317.7**	**333.0**	**390.8**	**427.0**	**430.5**	**435.6**	**445.1**	**518.7**	**432.0**	**431.4**	**438.8**	**446.6**	**508.6**

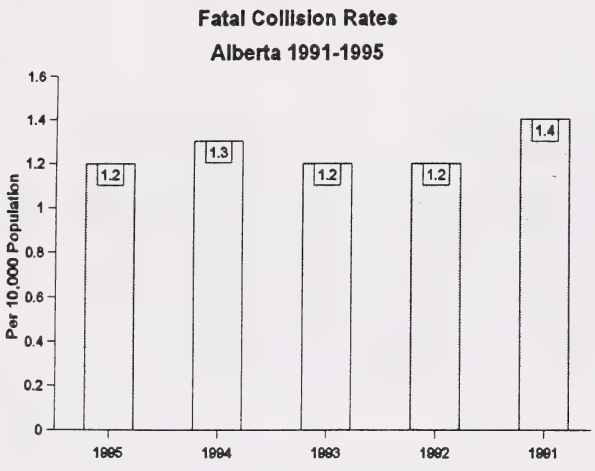
Observations

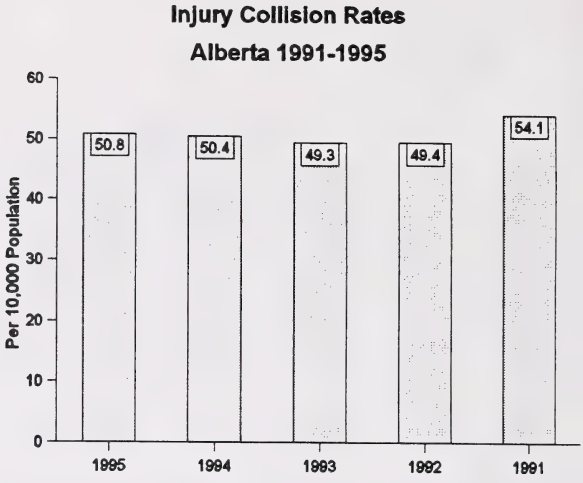
The fatal collision rate, in terms of population, decreased slightly from 1994, while the fatality rate is unchanged from 1994. In terms of licensed drivers, and registered vehicles for 1995, the fatality rate was unchanged from 1994.

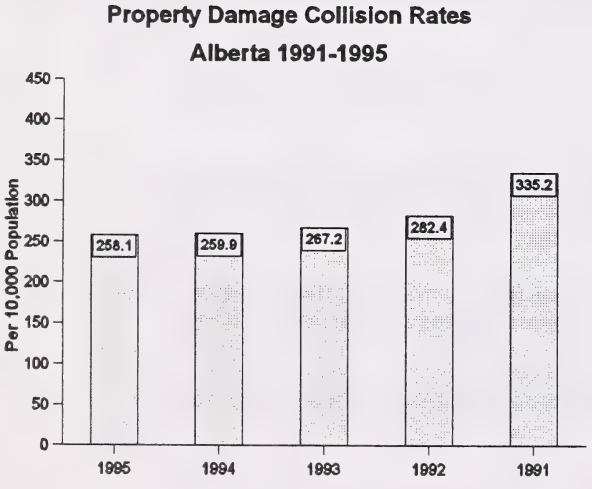
The non-fatal injury rate, in terms of population is up slightly in 1995. The non fatal injury collision rates and non-fatal injury rates have increased in terms of licensed drivers and registered vehicles.

Property damage and total collision rates dropped again in 1995 after reaching a five-year high in 1991.

*Sources:
Population - Statistics Canada as of July 1, 1995.
Licensed Drivers - Motor Vehicles, Alberta Registries, as of December 31, 1995.
Registered Vehicles - Motor Vehicles, Alberta Registries, as of December 31, 1995.


Fatal Collision Rates
Alberta 1991-1995
Per 10,000 Population
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
1.2
1.3
1.2
1.2
1.4
1995
1994
1993
1992
1991


Injury Collision Rates
Alberta 1991-1995
Per 10,000 Population
60
50
40
30
20
10
0
50.8
50.4
49.3
49.4
54.1
1995
1994
1993
1992
1991


Property Damage Collision Rates
Alberta 1991-1995
Per 10,000 Population
450
400
350
300
250
200
150
100
50
0
258.1
259.9
267.2
282.4
335.2
1995
1994
1993
1992
1991

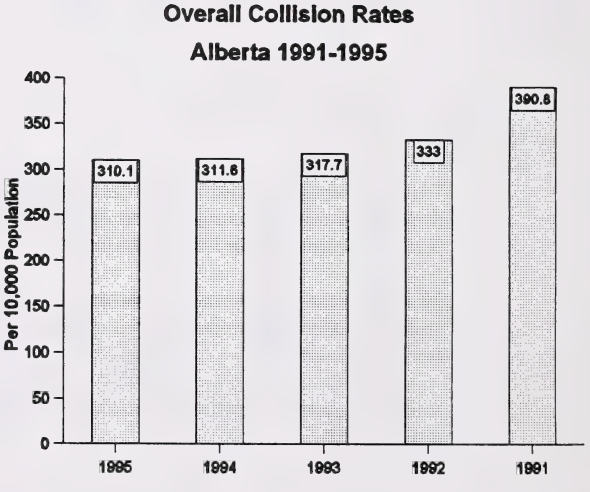

Overall Collision Rates
Alberta 1991-1995
Per 10,000 Population
400
350
300
250
200
150
100
50
0
310.1
311.6
317.7
333
390.8
1995
1994
1993
1992
1991

Figure 1

Table 1.3

Provincial Comparison of Casualty Rates Per 10,000 Population

1991 - 1995

	1995		1994		1993		1992		1991	
	Fatal	Injury	Fatal	Injury	Fatal	Injury	Fatal	Injury	Fatal	Injury
Alberta	1.5	75.9	1.5	74.3	1.4	72.3	1.4	72.8	1.7	77.9
British Columbia	*	*	1.5	131.7	1.4	132.8	1.4	146.5	1.7	147.4
Saskatchewan	1.5	73.1	1.5	79.8	1.5	79.5	1.4	80.5	1.7	76.5
Manitoba	*	*	1.1	122.3	1.2	139.9	1.1	144.3	1.1	139.1
Ontario	1.0	*	0.9	82.4	1.1	84.8	1.1	90.1	1.1	91.4
Quebec	1.2	66.2	1.1	66.9	1.3	69.1	1.4	73.0	1.5	74.3
New Brunswick	1.5	72.4	1.0	70.7	1.9	77.1	1.8	83.9	1.6	95.3
Nova Scotia	1.1	66.0	1.0	65.9	1.1	70.6	1.2	67.7	1.3	68.2
Prince Edward Island	1.2	58.0	1.3	54.1	1.5	60.9	1.0	69.3	2.4	75.5
Newfoundland	0.4	*	0.6	48.0	0.8	52.2	0.8	54.0	0.9	54.9

Observations

During 1995, Saskatchewan and New Brunswick recorded the same fatality rate as Alberta in terms of 10,000 population. Of the provinces for which information was available for 1995, Alberta had the highest injury rate.

*Figures not available at time of printing.

Sources: Casualty statistics supplied by each province and may be subject to revision. Population estimates, as of July 1, 1995, Statistics Canada.

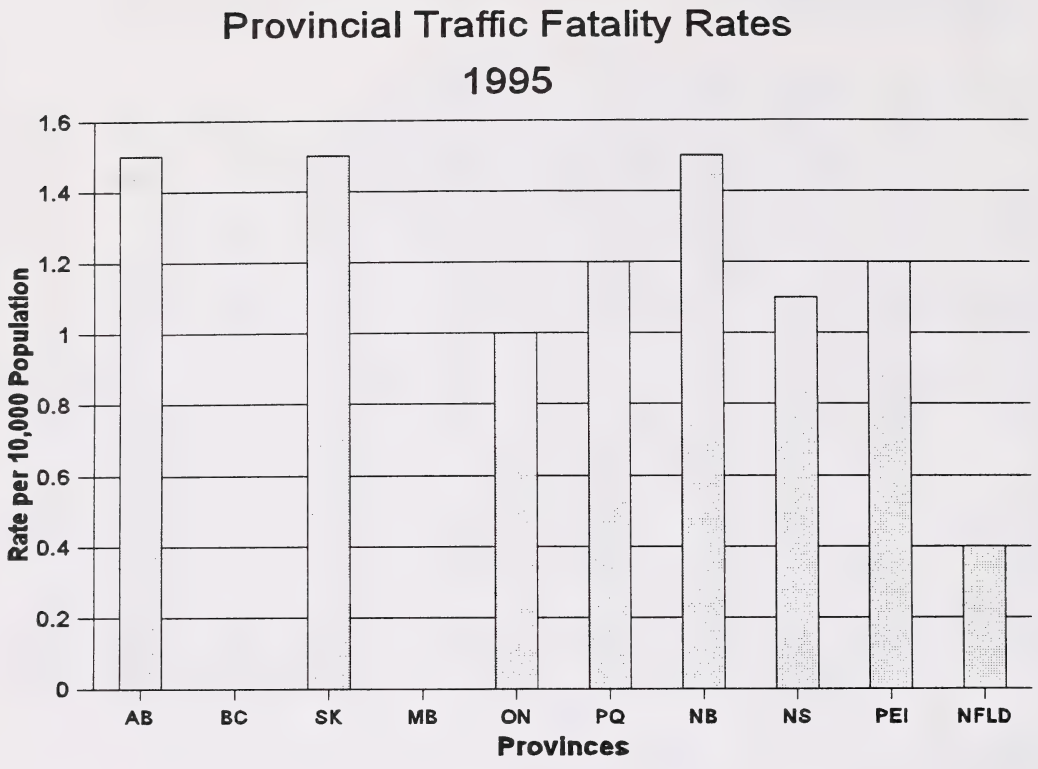

Provincial Traffic Fatality Rates
1995
Rate per 10,000 Population
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
AB
BC
SK
MB
ON
PQ
NB
NS
PEI
NFLD
Provinces

Figure 2

When the Collisions Occurred

Month

The month of December experienced more casualty collisions than other months. The highest number of property damage collisions was recorded during the month of December.

Day of Week

The daily distribution of collisions indicated that Friday was the most collision-prone day of the week. The largest number of fatal crashes occurred on Saturday.

Time

The afternoon rush hour period (3:00 p.m. - 6:59 p.m.) accounted for the highest proportion of collisions. The least collision-prone time period was the early morning (3:00 a.m. - 6:59 a.m.).

Holidays

The four day Thanksgiving weekend recorded the highest number of individuals killed. The five day Christmas period recorded the highest number injured, as well as the highest number of total collisions.

Table 2.1

Collision Occurrence by Month

1995

Month	Fatal Collisions N	Fatal Collisions %	Non-Fatal Injury Collisions N	Non-Fatal Injury Collisions %	Property Damage Collisions N	Property Damage Collisions %	Total Collisions N	Total Collisions %
January	21	6.4	1091	7.8	6320	8.9	7432	8.7
February	20	6.1	954	6.8	5395	7.6	6369	7.5
March	17	5.2	995	7.1	5619	7.9	6631	7.8
April	27	8.2	919	6.6	4485	6.3	5431	6.4
May	32	9.8	1101	7.9	4637	6.5	5770	6.8
June	22	6.7	1220	8.7	5185	7.3	6427	7.5
July	38	11.6	1204	8.6	5101	7.2	6343	7.4
August	38	11.6	1291	9.2	5209	7.3	6538	7.7
September	30	9.1	1372	9.8	5218	7.4	6620	7.8
October	40	12.2	1211	8.7	5799	8.2	7050	8.3
November	23	7.0	1207	8.6	8485	12.0	9715	11.4
December	20	6.1	1388	9.9	9329	13.2	10737	12.6
Unspecified	---	---	5	0.0	152	0.2	157	0.2
Total Number of Collisions	**328**	**100.0**	**13958**	**100.0**	**70934**	**100.0**	**85220**	**100.0**

Observations

The month of October experienced more fatal crashes than other months. The highest number of reported injury crashes was in December and the highest number of property damage collisions was also in the month of December.

Table 2.2

Collision Occurrence by Day of Week

1995

Day of Week	Fatal Collisions N	Fatal Collisions %	Non-Fatal Injury Collisions N	Non-Fatal Injury Collisions %	Property Damage Collisions N	Property Damage Collisions %	Total Collisions N	Total Collisions %
Monday	43	13.1	1826	13.1	9359	13.2	11228	13.2
Tuesday	46	14.0	2006	14.4	10373	14.6	12425	14.6
Wednesday	41	12.5	2041	14.6	9935	14.0	12017	14.1
Thursday	46	14.0	1986	14.2	10115	14.3	12147	14.3
Friday	54	16.5	2405	17.2	12712	17.9	15171	17.8
Saturday	55	16.8	2087	15.0	10302	14.5	12444	14.6
Sunday	43	13.1	1591	11.4	7905	11.1	9539	11.2
Unspecified	---	---	16	0.1	233	0.3	249	0.3
Total Number of Collisions	**328**	**100.0**	**13958**	**100.0**	**70934**	**100.0**	**85220**	**100.0**

Observations

The daily distribution of collisions indicated that overall Friday was the most collision-prone day of the week. The largest number of fatal crashes occurred on Saturday.

Table 2.3

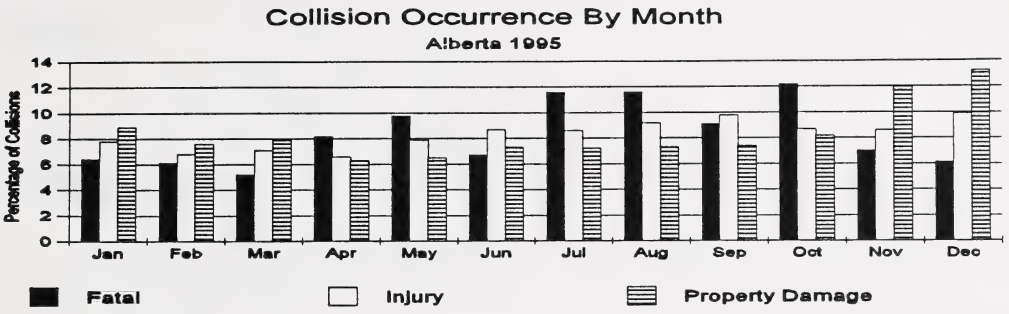
Collision Occurrence by Time Period

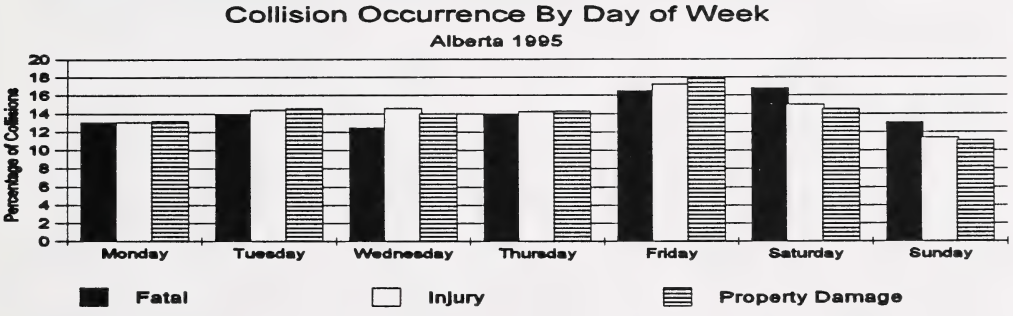
1995

Time Period	Fatal Collisions N	Fatal Collisions %	Non-Fatal Injury Collisions N	Non-Fatal Injury Collisions %	Property Damage Collisions N	Property Damage Collisions %	Total Collisions N	Total Collisions %
11:00 p.m.- 2:59 a.m.	55	16.8	1132	8.1	6078	8.6	7265	8.5
3:00 a.m.- 6:59 a.m.	42	12.8	627	4.5	3301	4.7	3970	4.7
7:00 a.m.- 10:59 a.m.	43	13.1	2223	15.9	12109	17.1	14375	16.9
11:00 a.m.- 2:59 p.m.	57	17.4	3263	23.4	16668	23.5	19988	23.5
3:00 p.m.- 6:59 p.m.	60	18.3	4331	31.0	19240	27.1	23631	27.7
7:00 p.m.- 10:59 p.m.	61	18.6	2188	15.7	11863	16.7	14112	16.6
Unspecified	10	3.0	194	1.4	1675	2.4	1879	2.2
Total Number of Collisions	**328**	**100.0**	**13958**	**100.0**	**70934**	**100.0**	**85220**	**100.0**

Observations

The afternoon rush hour period (3:00 p.m. - 6:59 p.m.) accounted for the largest percentage (27.7%) of collisions occurring in a 24 hour period. The least collision-prone time period was the early morning (3:00 a.m. - 6:59 a.m.).


Collision Occurrence By Month
Alberta 1995
Percentage of Collisions
14
12
10
8
6
4
2
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Fatal
Injury
Property Damage


Collision Occurrence By Day of Week
Alberta 1995
Percentage of Collisions
20
18
16
14
12
10
8
6
4
2
0
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
Fatal
Injury
Property Damage

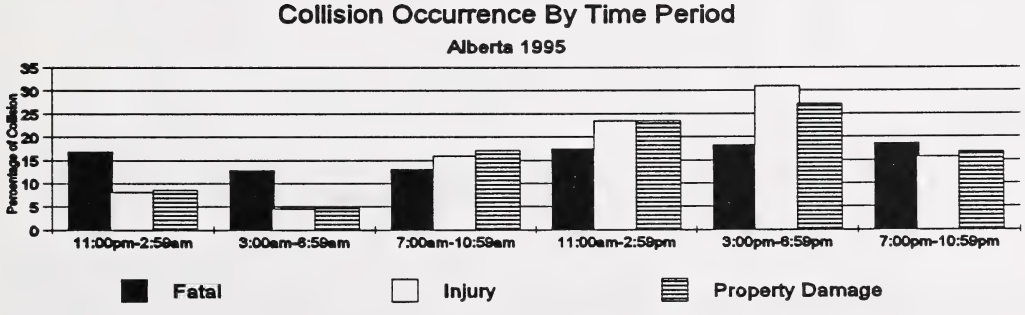

Collision Occurrence By Time Period
Alberta 1995
Percentage of Collision
35
30
25
20
15
10
5
0
11:00pm-2:59am
3:00am-6:59am
7:00am-10:59am
11:00am-2:59pm
3:00pm-6:59pm
7:00pm-10:59pm
Fatal
Injury
Property Damage

Figure 3

Table 2.4

Collisions During 1995 Holidays

Holidays	Number Killed N	Number Injured N	Total Collisions* N
New Year's Day (January 1)	---	24	148
Family Day (February 17-20)	7	196	835
Easter (April 13-17)	6	194	720
Victoria Day (May 19-22)	5	185	631
Canada Day Long Weekend (June 30-July 3)	6	254	799
August Long Weekend (August 4-7)	3	254	779
Labour Day (September 1-4)	3	258	808
Thanksgiving (October 6-9)	10	237	810
Remembrance Day Long Weekend (November 10-13)	2	177	1204
Christmas Season (December 22-26)	6	313	1415
Total	**48**	**2092**	**8149**

Observations

The four day Thanksgiving weekend recorded the highest number of individuals killed. The five day Christmas period recorded the highest number of injured, as well as the highest number of total collisions.

*Total collisions includes fatal, injury, and property damage collisions.

Victims

Road User Class

The majority of traffic victims were drivers and passengers of vehicles. Pedestrians and motorcyclists accounted for 5.1% and 3.2% of the total casualties, respectively.

Age of Casualties

Casualty rates per 10,000 population were highest for persons between the ages of 15 and 24. The lowest casualty rates were recorded for children 14 and under.

Table 3.1

Injuries and Fatalities by Road User Class

1995

Road User Class	Persons Killed N	Persons Killed %	Persons Injured N	Persons Injured %	Total Casualties N	Total Casualties %
Drivers	205	50.9	11596	55.6	11801	55.5
Passengers	127	31.5	6753	32.4	6880	32.3
Pedestrians	39	9.7	1052	5.0	1091	5.1
Bicyclists	4	1.0	679	3.3	683	3.2
Motorcyclists	14	3.5	477	2.3	491	2.3
Other	4	1.0	154	0.7	158	0.7
Unspecified	10	2.5	155	0.7	165	0.8
Total Casualties	**403**	**100.0**	**20866**	**100.0**	**21269**	**100.0**

Observations

The majority of traffic victims were drivers and passengers of vehicles. Pedestrians and bicyclists accounted for 5.1% and 3.2% of the total casualties, respectively.

Table 3.2

Age of Casualties

1995

Age In Years	Persons Killed N	Persons Killed %	Persons Injured N	Persons Injured %	Casualty Rate Per 10,000 Population*
Under 5	10	2.5	380	1.8	19.2
5 - 9	6	1.5	621	3.0	29.6
10 - 14	7	1.7	976	4.7	47.0
15 - 19	57	14.1	3203	15.4	169.7
20 - 24	58	14.4	2947	14.1	153.4
25 - 29	43	10.7	2382	11.4	112.1
30 - 34	37	9.2	2136	10.2	84.7
35 - 44	69	17.1	3481	16.7	73.9
45 - 54	35	8.7	2005	9.6	65.0
55 - 64	23	5.7	1116	5.3	56.2
65 and over	58	14.4	1210	5.8	47.5
Unspecified	---	---	409	2.0	
Total Casualties	**403**	**100.0**	**20866**	**100.0**	

Observations

Casualty rates per 10,000 population were highest for persons between the ages of 15 and 24. The lowest casualty rates were recorded for children 14 years of age and younger.

* Based on estimates of the Alberta population by age groups and sex, July 1, 1995, Statistics Canada.

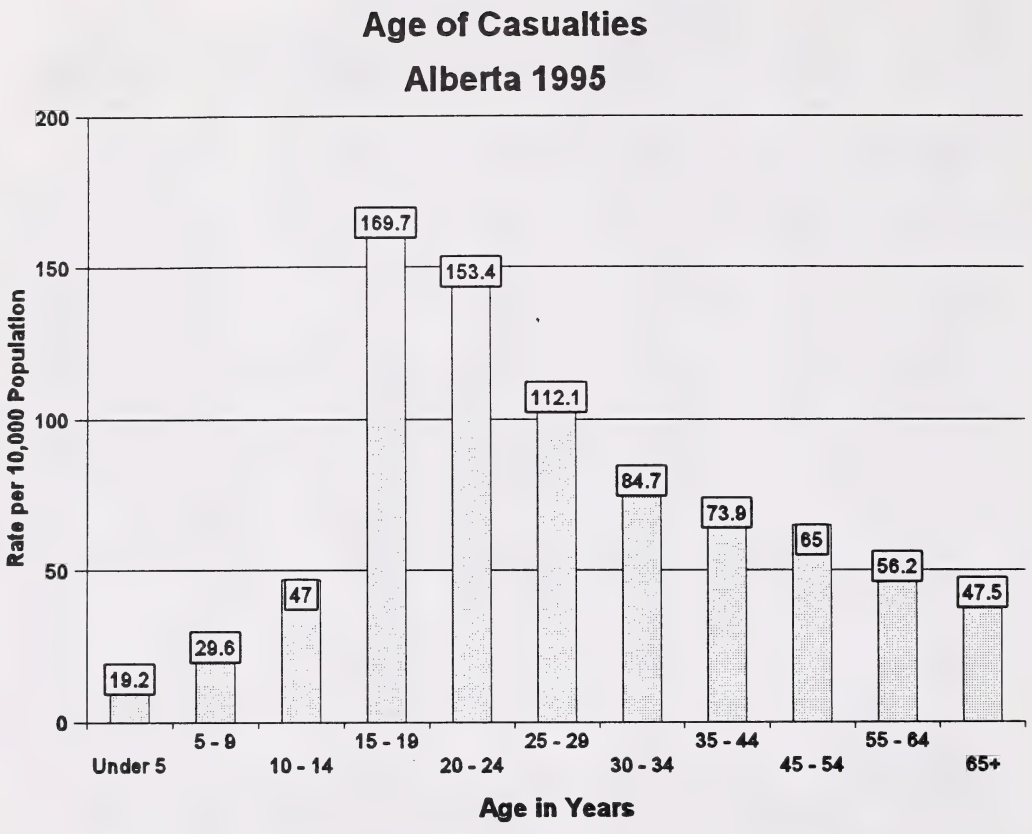

Age of Casualties
Alberta 1995
Rate per 10,000 Population
200
150
100
50
0
19.2
29.6
47
169.7
153.4
112.1
84.7
73.9
65
56.2
47.5
Under 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 44
45 - 54
55 - 64
65+
Age in Years

Figure 4

Drivers

Age and Sex of Drivers

Collision rates per 1000 licensed drivers indicated that 16-19 year olds were more likely to be involved in a casualty collision than any other age group.

Driver Actions

Driver error or misjudgement was cited for 48.6% of drivers involved in casualty collisions. Following too closely, running off the road, and left turn across path were the most frequently identified driver actions contributing to casualty collisions.

Table 4.1

Age and Sex of Drivers Involved in Casualty Collisions:

Per 1,000 Licensed Drivers

1995

	Males			Females			Total*		
Age of Driver	N	%	Per 1000* Licensed Drivers	N	%	Per 1000** Licensed Drivers	N	%	Per 1000** Licensed Drivers
Under 16	296	1.2	20.0	134	0.5	11.9	434	1.7	16.6
16 - 17	783	3.1	26.3	539	2.1	20.8	1322	5.2	23.7
18 - 19	1070	4.2	27.3	666	2.6	18.4	1737	6.8	23.0
20 - 24	2277	8.9	22.1	1305	5.1	13.7	3582	14.0	18.1
25 - 34	4049	15.8	16.2	2348	9.2	10.1	6401	25.0	13.3
35 - 44	3323	13.0	12.6	2061	8.0	8.7	5387	21.0	10.8
45 - 54	2001	7.8	11.8	1117	4.4	7.4	3119	12.2	9.8
55 - 64	1124	4.4	10.7	529	2.1	6.2	1656	6.5	8.7
65 and over	1061	4.1	10.3	440	1.7	5.6	1503	5.9	8.3
Unspecified	130	0.5		39	0.2		471	1.8	
Total Number of Drivers	**16114**	**62.9**		**9178**	**35.8**	**9.6**	**25612**	**100.0**	**12.6**

Observations

Collision rates per 1000 licensed drivers indicated that 16-17 year olds were more likely to be involved in a casualty collision than any other age group. The next age group most likely to be involved in casualty crashes was 18 to 19 year olds.

*Total includes drivers whose sex was not specified on the collision report form.

**Source: Alberta Registries - Motor Vehicles. Operator Statistics, December 31, 1995.

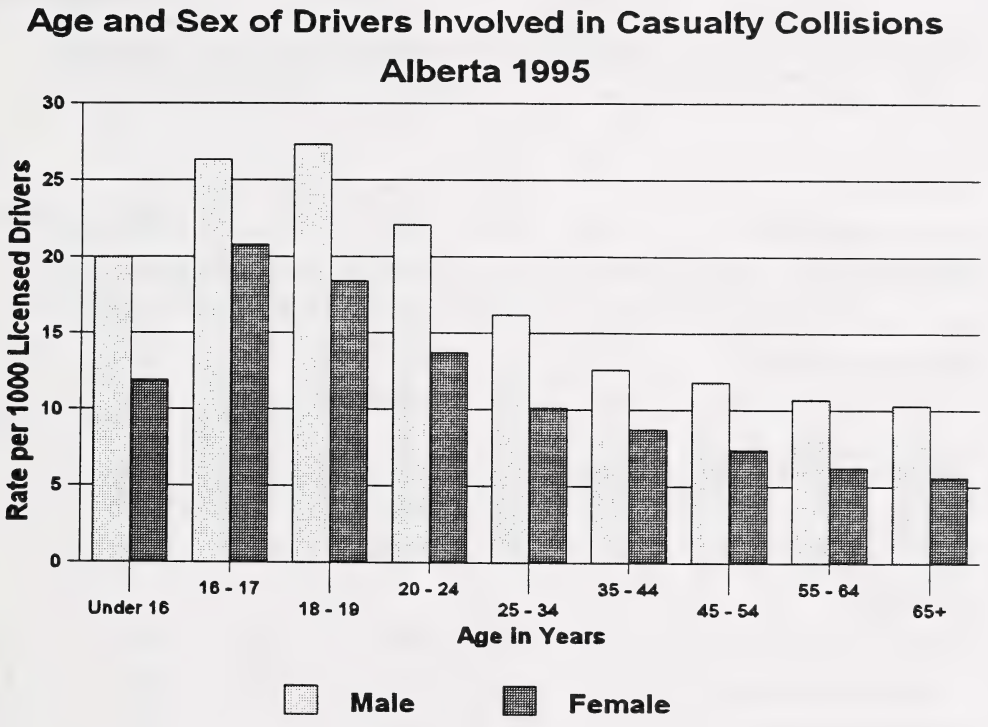

Age and Sex of Drivers Involved in Casualty Collisions
Alberta 1995
Rate per 1000 Licensed Drivers
30
25
20
15
10
5
0
Under 16
16 - 17
18 - 19
20 - 24
25 - 34
35 - 44
45 - 54
55 - 64
65+
Age in Years
Male
Female

Figure 5

Table 4.2

Actions of Drivers Involved in Casualty Collisions*

1995

Driver Action	Drivers in Fatal Collisions N	%	Drivers in Non-Fatal Injury Collisions N	%	Total Drivers in Casualty Collisions N	%
Driving Properly	171	39.5	11248	51.4	11419	51.2
Followed too Closely	6	1.4	2276	10.4	2282	10.2
Ran Off Road	91	21.0	1480	6.8	1571	7.0
Left Turn Across Path	12	2.8	1266	5.8	1278	5.7
Stop Sign Violation	27	6.2	914	4.2	941	4.2
Disobey Traffic Signal	11	2.5	890	4.1	901	4.0
Fail to Yield Right of Way to Pedestrian	7	1.6	331	1.5	338	1.5
Left of Center	45	10.4	264	1.2	309	1.4
Fail to Yield Right of Way Uncontrolled Intersection	7	1.6	266	1.2	273	1.2
Backed Unsafely	1	0.2	254	1.2	255	1.1
Improper Lane Change	---	---	252	1.2	252	1.1
Yield Sign Violation	4	0.9	240	1.1	244	1.1
Improper Turn	1	0.2	176	0.8	177	0.8
Improper Passing	5	1.2	129	0.6	134	0.6
Other	45	10.4	1902	8.7	1947	8.7
Total Number of Drivers	**433**	**100.0**	**21888**	**100.0**	**22321**	**100.0**

Observations

Driver error or misjudgement was cited for 48.6% of drivers involved in casualty collisions. Following too closely, running off the road, and left turn across path were the most frequently identified driver actions contributing to casualty collisions.

*Based on those cases where driver action was specified on the collision report form.

Vehicles

Types of Vehicles

Passenger cars and pickup trucks/vans were the vehicles most frequently involved in total casualty collisions. Overall, motorcycles represented 1.7% and bicycles 2.6% of the vehicles involved in casualty collisions.

Vehicular Factors

Only 1.1% of vehicles involved in casualty collisions were identified as having a vehicle defect. The most common defects involved defective brakes and tire failure.

Point of Impact

The most common point of impact in casualty collisions involved the front of the vehicle. Approximately 43.6% of the impacts involved the center front.

Table 5.1

Types of Vehicles Involved in Casualty Collisions*

1995

Type of Vehicle	Vehicles in Fatal Collisions N	%	Vehicles in Non-Fatal Injury Collisions N	%	Total Vehicles in Casualty Collisions N	%
Passenger Car	220	43.7	15650	61.1	15870	60.8
Pickup Truck/Van	155	30.8	5658	22.1	5813	22.3
Mini-Van/MPV	38	7.6	1868	7.3	1906	7.3
Bicycle	4	0.8	681	2.7	685	2.6
Truck 4500 kg +	29	5.8	591	2.3	620	2.4
Motorcycle	15	3.0	429	1.7	444	1.7
Truck Tractor	34	6.8	385	1.5	419	1.6
Transit Bus	---	---	73	0.3	73	0.3
Emergency Vehicle	---	---	51	0.2	51	0.2
Off Highway Vehicle	---	---	47	0.2	47	0.2
School Bus	2	0.4	37	0.1	39	0.1
Motorhome	---	---	27	0.1	27	0.1
Other Bus	1	0.2	20	0.1	21	0.1
Farm Equipment	2	0.4	17	0.1	19	0.1
Construction Equipment	---	---	16	0.1	16	0.1
Motorized Snow Vehicle	2	0.4	13	0.1	15	0.1
Intercity Bus	---	---	4	0.0	4	0.0
Moped	---	---	3	0.0	3	0.0
Other	1	0.2	34	0.1	35	0.1
Total Number of Vehicles	**503**	**100.0**	**25604**	**100.0**	**26107**	**100.0**

Observations

Passenger cars and pickup trucks/vans were the vehicles most frequently involved in total casualty collisions. Overall, motorcycles represented 1.7% and bicycles 2.6% of the vehicles involved in casualty collisions. Truck tractors were 1.6% of total vehicles in casualty crashes, but 6.8% of vehicles in fatal crashes.

*Based on those cases where type of vehicle was specified on the collision report form.

Table 5.2

Vehicular Factors Involved in Casualty Collisions*

1995

Vehicular Factors	Vehicles in Fatal Collisions N	%	Vehicles in Non-Fatal Injury Collisions N	%	Total Vehicles in Casualty Collisions N	%
No Apparent Defect	389	97.5	21285	98.8	21674	98.8
Defective Brakes	4	1.0	87	0.4	91	0.4
Tires Failed	2	0.5	40	0.2	42	0.2
Lighting Defect	3	0.8	26	0.1	29	0.1
Improper Load/Shift	---	---	10	0.0	10	0.0
Other	1	0.3	85	0.4	86	0.4
Total Number of Vehicles	**399**	**100.0**	**21533**	**100.0**	**21932**	**100.0**

Observations

Only 1.1% of vehicles involved in casualty collisions were identified as having a vehicle defect. The most common defects were defective brakes and tire failure.

*Based on those cases where a vehicle factor was specified on the collision report form.

Table 5.3

Point of Impact on Vehicles Involved in Casualty Collisions*

1995

Point of Impact	Vehicles in Fatal Collisions N	%	Vehicles in Non-Fatal Injury Collisions N	%	Total Vehicles in Casualty Collisions N	%
Center Front	219	45.9	10120	43.5	10339	43.6
Center Rear	19	4.0	4453	19.2	4472	18.9
Left Front	41	8.6	1883	8.1	1924	8.1
Right Front	30	6.3	1706	7.3	1736	7.3
Rollover	85	17.8	1391	6.0	1476	6.2
Right Side	37	7.8	1096	4.7	1133	4.8
Left Side	22	4.6	1071	4.6	1093	4.6
Right Rear	5	1.0	601	2.6	606	2.6
Left Rear	4	0.8	594	2.6	598	2.5
Attachment	11	2.3	167	0.7	178	0.8
Undercarriage	2	0.4	108	0.5	110	0.5
Top	2	0.4	56	0.2	58	0.2
Total Number of Vehicles	**477**	**100.0**	**23246**	**100.0**	**23723**	**100.0**

Observations

The most common point of impact in casualty collisions involved the front of the vehicle. 43.6% of the impacts involved the center front, while 18.9% of the impacts involved the center rear.

*Based on those cases for which the point of impact was specified on the collision report form.

Environment

Location

The majority of fatal crashes occurred in rural areas, whereas the majority of injury and property damage crashes occurred in urban areas.

Surface Condition

The majority (61.5%) of casualty collisions occurred when surface conditions were dry. Slush, snow or ice was present in 22.5% of the casualty crashes.

Table 6.1

Location of Collisions

1995

Location	Fatal Collisions N	Fatal Collisions %	Non-Fatal Injury Collisions N	Non-Fatal Injury Collisions %	Property Damage Only Collisions N	Property Damage Only Collisions %	Total Collisions N	Total Collisions %
Urban	91	27.7	10860	77.8	56682	79.9	67633	79.4
Rural	237	72.3	3098	22.2	14252	20.1	17587	20.6
Total Number of Collisions	**328**	**100.0**	**13958**	**100.0**	**70934**	**100.0**	**85220**	**100.0**

Observations

Collisions which occurred in rural areas accounted for 72.3% of all fatal crashes. Collisions occurring in urban areas resulted in the highest proportion of non-fatal injury collisions (77.8%) and property damage crashes (79.9%).

Table 6.2

Casualty Collision Occurrence by Surface Condition

1995

Surface Condition	Fatal Collisions N	Fatal Collisions %	Non-Fatal Injury Collisions N	Non-Fatal Injury Collisions %	Total Casualty Collisions N	Total Casualty Collisions %
Dry	226	68.9	8553	61.3	8779	61.5
Slush/Snow/Ice	55	16.8	3159	22.6	3214	22.5
Wet	27	8.2	1360	9.7	1387	9.7
Loose Surface Material	8	2.4	266	1.9	274	1.9
Muddy	1	0.3	21	0.2	22	0.2
Other	1	0.3	79	0.6	80	0.6
Unspecified	10	3.0	520	3.7	530	3.7
Total Number of Collisions	**328**	**100.0**	**13958**	**100.0**	**14286**	**100.0**

Observations

The majority of casualty collisions occurred when surface conditions were dry. Slush, snow or ice was involved in 16.8% of fatal collisions and 22.5% of non-fatal injury collisions.

Special Types of Vehicles

Motorcycles

- Based on motorcycle registrations, the involvement rate of motorcycles in fatal collisions increased while the involvement rate in non-fatal injury collisions has decreased from 1994.
- 15 people were killed in collisions involving a motorcycle, compared to the five-year high of 24 in 1993.
- The majority of motorcycle casualty collisions involved male drivers. Motorcycle drivers under the age of 25 had the highest involvement rate per 1000 licensed drivers. In particular 16 and 17 year old motorcycle drivers had an involvement rate per 1,000 licensed driver of 49.1, a rate over three times greater than that of the 20-24 year old motorcycle drivers.
- Compared to drivers involved in total casualty collisions, motorcycle drivers were more likely to run off the road or pass improperly. However, motorcycle drivers were less likely to make an unsafe left turn, follow too closely or disobey a stop sign.
- Compared to drivers involved in all types of vehicle casualty collisions, motorcycle drivers were more likely to have consumed alcohol before the crash.
- Vehicular factors were identified for 2.5% of motorcycles involved in casualty collisions compared to 1.1% for all types of vehicles involved in casualty collisions.
- The majority of casualty collisions involving motorcycles occurred on dry roads.

Table 7.1

Motorcycles Involved in Casualty Collisions: 1991-1995

Number of Motorcycles	1995	1994	1993	1992	1991
Fatal	15	11	21	17	19
Non-Fatal Injury	429	455	480	542	599
Total Number of Motorcycles Involved in Casualty Collisions	**444**	**466**	**501**	**559**	**618**
Casualties*					
Number Killed	15	11	24	19	19
Number Injured	518	532	572	634	695
Total Casualties in Collisions Involving Motorcycles	**533**	**543**	**596**	**653**	**714**
Number of Motorcycles Involved in Casualty Collisions Per 10,000 Registered Motorcycles**					
Fatal Collisions	4.2	3.0	5.9	4.5	4.9
Non-Fatal Injury Collisions	121.4	124.6	135.9	144.6	155.6

Observations

Based on motorcycle registrations, the involvement rate of motorcycles in fatal collisions has increased while the rate for non-fatal injury collisions decreased in 1995. 15 people were killed in collisions involving a motorcycle, compared to the five-year high of 24 in 1993.

*This refers to the total number of people killed and injured in collisions in which a motorcycle was involved. It does not refer to the number of motorcyclists killed and injured.

**Source: Based on vehicle registration statistics, Motor Vehicles, Alberta Registries, December 31, 1995.

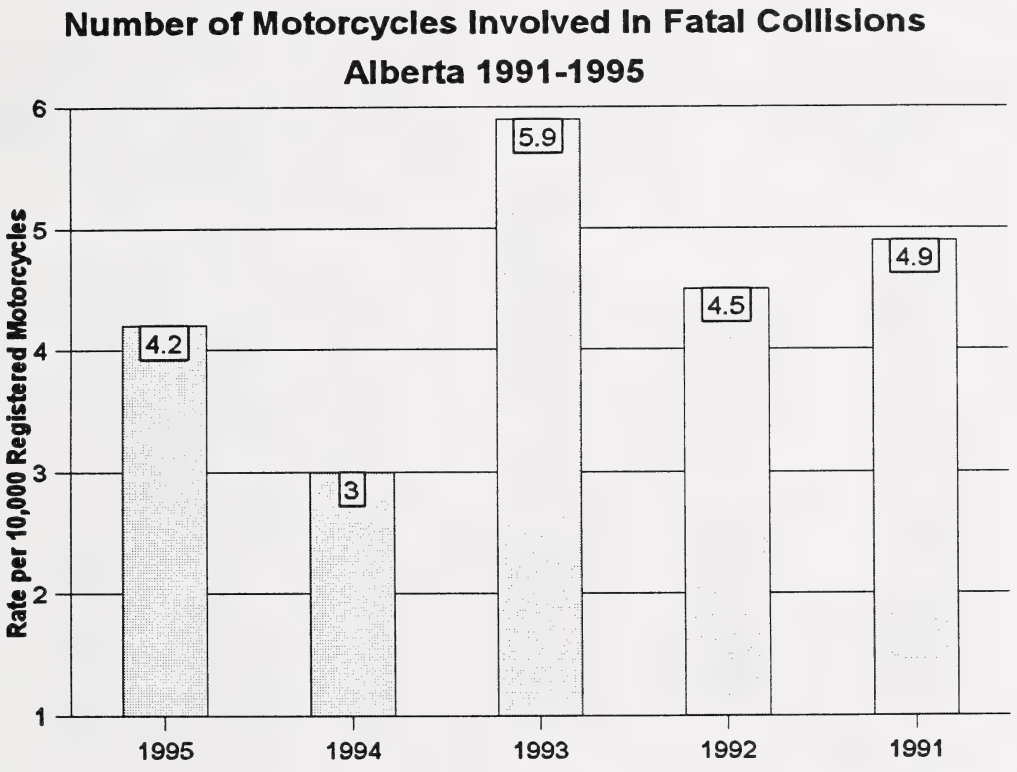

Number of Motorcycles Involved In Fatal Collisions
Alberta 1991-1995
Rate per 10,000 Registered Motorcycles
6
5
4
3
2
1
4.2
3
5.9
4.5
4.9
1995
1994
1993
1992
1991

Figure 6

Table 7.2

Age and Sex of Motorcycle Drivers Involved in Casualty Collisions:

1995

Age of Motorcycle Driver	Male		Female		Total*		Rate Per 1,000 Licensed Motorcycle Drivers**
	N	%	N	%	N	%	
Under 16	16	3.6	---	---	16	3.6	---
16 - 17	20	4.5	---	---	20	4.5	49.1
18 - 19	46	10.4	2	0.5	48	10.9	36.7
20 - 24	105	23.8	8	1.8	113	25.6	13.8
25 - 34	95	21.5	11	2.5	107	24.2	2.5
35 - 44	75	17.0	6	4.0	81	18.3	1.2
45 - 54	38	8.6	4	0.9	43	9.7	1.4
55 - 64	7	1.6	---	---	7	1.6	0.7
65 and over	3	0.7	---	---	3	0.7	0.6
Unspecified	2	0.5	---	---	4	0.9	---
Total Number of Motorcycle Drivers	**407**	**92.1**	**31**	**9.7**	**442**	**100.0**	

Observations

The majority of motorcycle casualty collisions involved male drivers. Based on involvement per 1,000 licensed operators motorcycle drivers under the age of 25 were most likely to be involved in collisions. In particular, 16 and 17 year old motorcycle drivers had the highest involvement rate per 1,000 licensed motorcyclists. The age group least likely to be involved in collisions were motorcyclists 35 years of age and over. These age and sex comparisons are limited due to the lack of driving exposure data. That is, in order to make valid age comparisons, it is important to take into account the number of kilometres driven annually by each age and sex group of motorcycle operators.

Note: In Alberta, Class 6 (motorcycle) licenses are not issued to operators under 16 years of age.

*Total includes drivers whose sex was not specified on the collision report form.

**Source: Alberta Registries - Motor Vehicles. Operator Statistics, December 31, 1995.

Table 7.3

Action of Motorcycle Drivers Involved in Casualty Collisions:

1995

Action of Motorcycle Driver	N	%	Driver Action in Total Casualty Collisions (All Vehicle Types) %
Driving Properly	182	47.9	51.2
Ran Off Road	68	17.9	7.0
Followed Too Closely	26	6.8	10.2
Improper Passing	9	2.4	0.6
Improper Lane Change	8	2.1	1.1
Left of Center	8	2.1	1.4
Left Turn Across Path	6	1.6	5.7
Failed to Yield Right of Way Uncontrolled Intersection	4	1.1	1.2
Stop Sign Violation	3	0.8	4.2
Disobey Traffic Signal	3	0.8	4.0
Failed to Yield Right of Way to Pedestrian	3	0.8	1.5
Yield Sign Violation	1	0.3	1.1
Improper Turn	1	0.3	0.8
Other	58	15.3	8.7
Total Number of Motorcycle Drivers	**380**	**100.0**	

Observations

Improper driver actions were a contributory factor for 52.1% of the motorcyclists involved in casualty collisions. Compared to drivers involved in total casualty collisions, motorcycle drivers were more likely to run off the road or pass improperly. However, motorcycle drivers were less likely to make an unsafe left turn, follow too closely or violate a stop sign.

*Based on those cases where driver action was specified on the collision report form.

Table 7.4

Condition of Motorcycle Drivers* Involved in Casualty Collisions

1995

Condition of Motorcycle Driver	N	%	Driver Condition in Total Casualty Collisions (All Vehicle Types) %
Normal	335	84.8	89.1
Had Been Drinking	29	7.3	3.4
Alcohol Impaired	19	4.8	3.0
Total Alcohol Involvement	**48**	**12.1**	**6.5**
Fatigued/Asleep	3	0.8	0.9
Other	9	2.3	3.5
Total Number of Motorcycle Drivers	**395**	**100.0**	

Observations

The motorcycle driver's condition was a contributory factor for 15.2% of these crashes. Compared to drivers involved in total casualty collisions, motorcycle drivers were more likely to have consumed alcohol prior to the crash.

*Based on those cases where driver condition was specified on the collision report form.

Table 7.5

Motorcycle Vehicular Factors* in Casualty Collisions:

1995

Vehicular Factors	N	%	Vehicular Factors in Total Casualty Collisions (All Vehicle Types) %
No Apparent Defect	384	97.5	98.8
Tires Failed	2	0.5	0.2
Defective Brakes	2	0.5	0.4
Lighting Defect	1	0.3	0.1
Other	5	1.3	0.4
Total Number of Motorcycles	**394**	**100.0**	

Observations

Vehicular factors were identified for 2.5% of the motorcycles involved in casualty collisions, compared to 1.1% for all types of vehicles involved in casualty collisions.

*Based on those cases where a vehicular factor was specified on the collision report form.

Table 7.6

Casualty Collisions Involving Motorcycles:

Month of Occurrence

1995

Month	N	%
January	1	0.2
February	2	0.5
March	12	2.8
April	26	6.0
May	60	13.8
June	80	18.4
July	85	19.5
August	59	13.6
September	81	18.6
October	24	5.5
November	5	1.1
December	---	---
Total Number of Collisions	**435**	**100.0**

Observations

The months of May to September recorded the highest proportion of casualty crashes involving motorcycles.

Table 7.7

Casualty Collisions Involving Motorcycles:

Road Surface Condition*

1995

Road Surface Condition	N	%
Dry	367	84.4
Wet	24	5.5
Loose Surface Material	14	3.2
Muddy	1	0.2
Other	8	1.8
Unspecified	21	4.8
Total Number of Collisions	**435**	**100.0**

Observations

The majority of casualty collisions involving motorcycles occurred on dry roads. Wet roads were the scene of 5.5% of motorcycle casualty collisions. Loose material on the road surface was involved in 3.2% of motorcycle casualty crashes.

Special Types of Vehicles

Truck Tractors

- In 1995, there were 51 persons killed and 541 injured in collisions involving truck tractors. This represents a decrease in casualties from 1994.
- Compared to drivers of other vehicles, truck tractor drivers were more likely to run off the road or make an improper lane change. However, operators of truck tractors were less likely than other vehicle operators to follow to closely, make a left turn across the path of an oncoming vehicle or disobey a stop sign.
- Truck tractor drivers were less likely to consume alcohol before the crash than were drivers in total casualty collisions.
- Vehicular factors were more likely to be present in truck tractor casualty collisions than in total casualty collisions.
- The occurrence of casualty collisions involving truck tractors was highest in the months of January and December.

Table 7.8

Truck Tractors Involved in Casualty Collisions:

1991-1995

Number of Truck Tractors	1995	1994	1993	1992	1991
Fatal	34	39	38	31	51
Non-Fatal Injury	385	461	368	310	372
Total Number of Truck Tractors Involved in Casualty Collisions	**419**	**500**	**406**	**341**	**423**
Casualties*					
Number Killed	51	42	44	34	65
Number Injured	541	614	500	420	536
Total Casualties in Collisions Involving Truck Tractors	**592**	**656**	**544**	**454**	**601**

Observations

In 1995, there were 51 persons killed and 541 injured in collisions involving truck tractors. This represents a decrease in casualties from 1994. The total number of truck tractors involved in casualty crashes decreased in 1995, standing at 419 compared to the five-year low of 341 recorded in 1992.

*This refers to the total number of people killed and injured in collisions in which a truck tractor was involved. It does not refer to the number of truck tractor drivers killed and injured.

Table 7.9

Casualty Collisions Involving Truck Tractors:

Action* of Truck Tractor Drivers Involved in Casualty Collisions

1995

Driver Action	N	%	Driver Action in Total Casualty Collisions (All Types of Vehicles) %
Driving Properly	205	57.3	51.2
Ran Off Road	49	13.7	7.0
Followed Too Closely	24	6.7	10.2
Improper Lane Change	10	2.8	1.1
Left Turn Across Path	10	2.8	5.7
Left of Center	7	2.0	1.4
Disobey Traffic Signal	6	1.7	4.0
Stop Sign Violation	5	1.4	4.2
Backed Unsafely	5	1.4	1.1
Improper Turn	3	0.8	0.8
Improper Passing	3	0.8	0.6
Failed to Yield Right of Way Uncontrolled Intersection	2	0.6	1.2
Yield Sign Violation	1	0.3	1.1
Other	28	7.8	8.7
Total Number of Drivers	**358**	**100.0**	

Observations

Improper driver actions were exhibited by approximately 42.7% of the truck tractor drivers involved in casualty collisions. Compared to drivers of other vehicles, truck tractor drivers were more likely to run off the road or make an improper lane change. However, operators of truck tractors were less likely than other vehicle operators to follow too closely, make a left turn across the path of an oncoming vehicle or disobey a stop sign.

***Based on those cases where driver action was specified on the collision report form.**

Table 7.10

Casualty Collisions Involving Truck Tractors:

Condition* of Truck Tractor Drivers Involved in Casualty Collisions

1995

Driver Condition	N	%	Driver Condition in Total Casualty Collisions (All Types of Vehicles) %
Normal	349	95.6	89.1
Had Been Drinking	3	0.8	3.4
Alcohol Impaired	---	---	3.0
Total Alcohol Involvement	**3**	**0.8**	**6.5**
Impaired - Drugs	1	0.3	0.1
Fatigued/Asleep	9	2.5	0.9
Other	3	0.8	3.5
Total Number of Drivers	**365**	**100.0**	

Observations

The condition of the truck tractor driver was a contributory factor for 4.4% of the drivers involved. Truck tractor drivers were less likely to consume alcohol before the crash than were drivers involved in total casualty collisions. However, they were more likely to have been fatigued or asleep at the time of the crash.

*Based on those cases where driver condition was specified on the collision report form.

Table 7.11

Casualty Collisions Involving Truck Tractors:

Vehicular Factors* of Truck Tractors Involved in Casualty Collisions

1995

Vehicular Factors	N	%	Vehicular Factors in Total Casualty Collisions (All Types of Vehicles) %
No Apparent Defect	353	95.4	98.8
Defective Brakes	6	1.6	0.4
Improper Load/Shift	5	1.4	0.2
Tires Failed	1	0.3	0.2
Lighting Defect	1	0.3	0.1
Other	4	1.1	0.4
Total Number of Truck Tractors	**370**	**100.0**	

Observations

Vehicular factors were identified for 4.6% of truck tractors involved in casualty collisions. Vehicular factors were more likely to be present in truck tractor collisions than in total casualty collisions.

*Based on those cases where vehicular factor was specified on the collision report form.

Table 7.12

Casualty Collisions Involving Truck Tractors:

Month of Occurrence

1995

Month	N	%
January	45	11.1
February	33	8.2
March	32	7.9
April	16	4.0
May	31	7.7
June	30	7.4
July	29	7.2
August	38	9.4
September	29	7.2
October	30	7.4
November	41	10.1
December	50	12.4
Total Number of Collisions	**404**	**100.0**

Observations

The occurrence of casualty collisions involving truck tractors was highest in the month of December. The lowest number of truck tractor casualty collisions occurred during April.

Special Types of Vehicles

Trains

- In 1995, 9 people were killed and 41 people were injured in crashes in which a train was involved. The number of casualties involving trains has decreased from 1994.
- The largest number of casualty collisions involving trains occurred in the months of January and June.
- A large percentage of drivers involved in collisions with a train disobeyed the traffic signal (37.1%) or failed to yield the right of way at an uncontrolled intersection (20.0%).

Table 7.13

Trains Involved in Casualty Collisions

1991-1995

Number of Trains	1995	1994	1993	1992	1991
Fatal	7	6	6	8	5
Non-Fatal Injury	30	42	28	17	31
Total Number of Trains Involved in Casualty Collisions	**37**	**48**	**34**	**25**	**36**
Casualties*					
Number Killed	9	8	9	14	9
Number Injured	41	52	31	29	41
Total Casualties in Collisions Involving Trains	**50**	**60**	**40**	**43**	**50**

Observations

The number of trains involved in casualty collisions decreased from 1994, as did the number of casualties resulting from these collisions.

*This refers to the total number of people killed and injured in collisions involving a train.

Table 7.14

Casualty Collisions Involving Trains:

Month of Occurrence

1995

	Fatal Collisions		Non-Fatal Injury Collisions		Total Casualty Collisions	
Month	**N**	**%**	**N**	**%**	**N**	**%**
January	1	14.3	5	16.7	6	16.2
February	1	14.3	2	6.7	3	8.1
March	---	---	2	6.7	2	5.4
April	---	---	2	6.7	2	5.4
May	1	14.3	---	---	1	2.7
June	1	14.3	5	16.7	6	16.2
July	---	---	1	3.3	1	2.7
August	---	---	4	13.3	4	10.8
September	1	14.3	2	6.7	3	8.1
October	2	28.6	1	3.3	3	8.1
November	---	---	2	6.7	2	5.4
December	---	---	4	13.3	4	10.8
Total Number of Collisions	**7**	**100.0**	**30**	**100.0**	**37**	**100.0**

Observations

The largest number of casualty collisions involving trains occurred in the months of January and June.

Table 7.15

Casualty Collisions Involving Trains:

Action* of Drivers Involved in Casualty Collisions with Trains

1995

	Drivers in Fatal Collisions		Driver in Non-Fatal Injury Collisions		Total Drivers in Casualty Collisions	
Driver Action	**N**	**%**	**N**	**%**	**N**	**%**
Disobey Traffic Signal	4	57.1	9	32.1	13	37.1
Failed to Yield Right of Way Uncontrolled Intersection	2	28.6	5	17.9	7	20.0
Driving Properly	---	---	4	14.3	4	11.4
Stop Sign Violation	1	14.3	2	7.1	3	8.6
Other	---	---	8	28.6	8	22.9
Total Number of Drivers	**7**	**100.0**	**28**	**100.0**	**35**	**100.0**

Observations

A large percentage of drivers involved in collisions with a train disobeyed a traffic signal, or failed to yield the right of way at an uncontrolled intersection.

*Based on those cases where driver action was specified on the collision report form.

Pedestrians

- Pedestrian casualty collisions were fairly evenly distributed across all months of the year. September accounted for the largest number of collisions, while April and June experienced the least number of pedestrian crashes.
- Pedestrian casualty collisions were most likely to occur on Fridays and least likely to occur on Sundays.
- Pedestrian casualty collisions were most likely to occur during the evening rush-hour period (3:00 p.m. to 6:59 p.m.).
- 34.0% of the drivers in collisions involving a pedestrian were recorded as failing to yield the right of way to the pedestrian.
- The casualty rate per population was highest for pedestrians between the ages of 15 and 19.
- Of pedestrians involved in injury collisions, 13.8% had consumed alcohol before the collision, compared to 50.0% involved in fatal collisions.
- Of those pedestrians who had consumed alcohol prior to the collision, the highest rate of involvement per 10,000 population was for the age group 20-24 years of age.

Table 8.1

Casualty Collisions Involving Pedestrians:

Month of Occurrence

1995

Month of Collision	N	%
January	94	9.2
February	75	7.3
March	97	9.5
April	61	6.0
May	78	7.6
June	70	6.8
July	89	8.7
August	90	8.8
September	98	9.6
October	93	9.1
November	94	9.2
December	83	8.1
Total Number of Collisions	**1022**	**100.0**

Observations

Pedestrian casualty collisions were fairly evenly distributed across all months of the year. September accounted for the largest number of collisions, while April and June experienced the least number of pedestrian crashes.

Table 8.2

Casualty Collisions Involving Pedestrians:

Day of Week

1995

Day of Week	N	%
Monday	146	14.3
Tuesday	138	13.5
Wednesday	154	15.1
Thursday	165	16.1
Friday	184	18.0
Saturday	142	13.9
Sunday	92	9.0
Unspecified	1	0.1
Total Number of Collisions	**1022**	**100.0**

Observations

Pedestrian casualty collisions were most likely to occur on Fridays and least likely to occur on Sundays.

Table 8.3

Casualty Collisions Involving Pedestrians:

Time Period

1995

Time Period	N	%
11:00 p.m. - 2:59 a.m.	100	9.8
3:00 a.m. - 6:59 a.m.	46	4.5
7:00 a.m. - 10:59 a.m.	161	15.8
11:00 a.m. - 2:59 p.m.	218	21.3
3:00 p.m. - 6:59 p.m.	323	31.6
7:00 p.m. - 10:59 p.m.	169	16.5
Unspecified	5	0.5
Total Number of Collisions	**1022**	**100.0**

Observations

Pedestrian casualty collisions were most likely to occur during the evening rush-hour period from 3:00 p.m. to 6:59 p.m. These collisions were least likely to occur during the early morning hours (3:00 a.m. to 6:59 a.m.).

Table 8.4

Casualty Collisions Involving Pedestrians:

Location

1995

Location	N	%
Urban	957	93.6
Rural	65	6.4
Total Number of Collisions	1022	100.0

Observations

The majority of pedestrian casualty collisions (93.6%) occurred in urban areas. Only 6.4% occurred in rural areas.

Table 8.5

Casualty Collisions Involving Pedestrians:

Action* of Drivers Involved in Casualty Collisions with Pedestrians

1995

Driver Action	N	%
Driving Properly	376	41.5
Failed to Yield Right of Way to Pedestrian	308	34.0
Backed Unsafely	75	8.3
Ran Off Road	17	1.9
Disobey Traffic Signal	6	0.7
Followed Too Closely	5	0.6
Failed to Yield Right of Way Uncontrolled Intersection	5	0.6
Improper Turn	5	0.6
Stop Sign Violation	4	0.4
Left Turn Across Path	3	0.3
Improper Passing	3	0.3
Left of Center	3	0.3
Yield Sign Violation	2	0.2
Improper Lane Change	2	0.2
Other	92	10.2
Total Number of Drivers	**906**	**100.0**

Observations

41.5%of the drivers involved in pedestrian crashes were recorded as driving properly. However, 34.0% of the drivers involved in pedestrian casualty collisions failed to yield right of way to the pedestrian.

*Based on those cases where driver action was specified on the collision report form.

Table 8.6

Age of Pedestrian Casualties:

1995

Age in Years	Pedestrians Killed N	Pedestrians Injured N	Total Pedestrian Casualties N	%	Pedestrian Casualty Rate Per 10,000 Population*
Under 5	---	27	27	2.5	1.3
5 - 9	---	85	85	7.8	4.0
10 - 14	---	134	134	12.3	6.4
15 - 19	4	152	156	14.3	8.1
20 - 24	3	92	95	8.7	4.8
25 - 29	3	75	78	7.1	3.6
30 - 34	5	81	86	7.9	3.4
35 - 44	6	154	160	14.7	3.3
45 - 54	3	80	83	7.6	2.6
55 - 64	3	65	68	6.2	3.4
65 and over	12	85	97	8.9	3.6
Unspecified	---	22	22	2.0	
Total Number of Pedestrian Casualties	**39**	**1052**	**1091**	**100.0**	

Observations

The casualty rate per population was highest for pedestrians between the ages of 15 and 19. The lowest casualty rate was recorded for persons under 5 years of age.

*Source: Based on estimates of the Alberta population by age groups and sex, July 1, 1995, Statistics Canada.

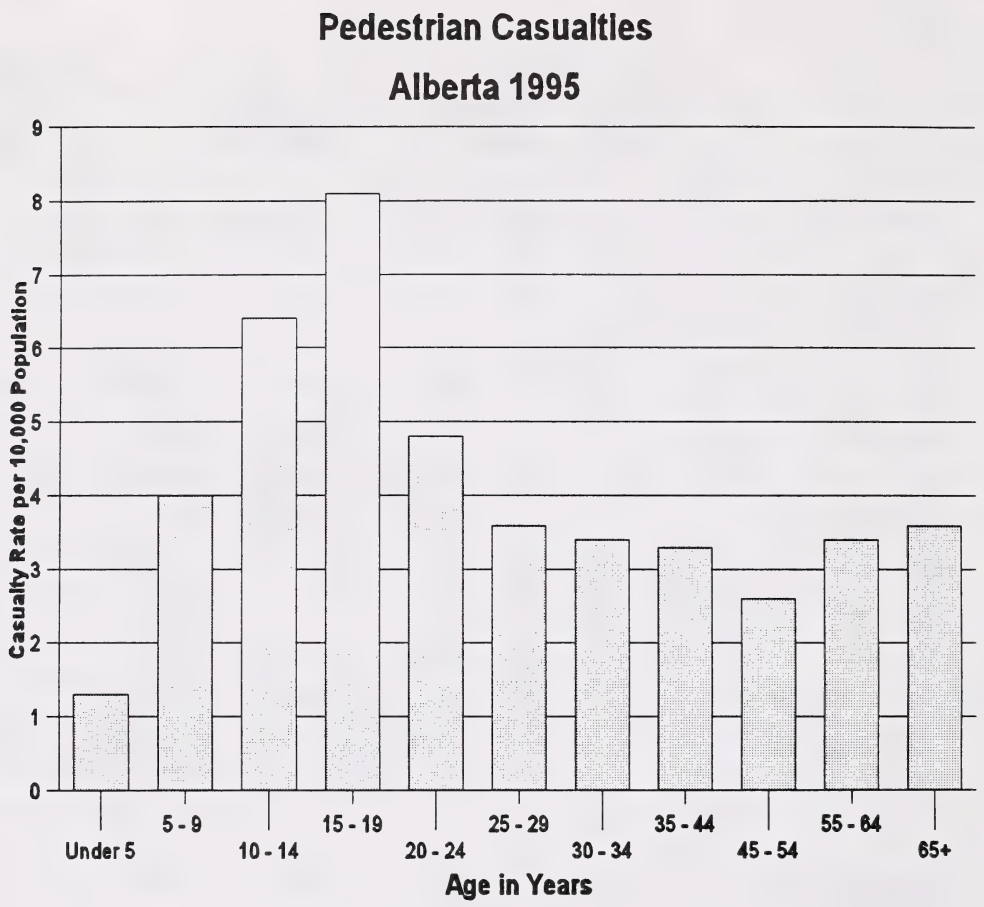

Pedestrian Casualties
Alberta 1995
Casualty Rate per 10,000 Population
0
1
2
3
4
5
6
7
8
9
Under 5
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 44
45 - 54
55 - 64
65+
Age in Years

Figure 7

Table 8.7

Condition of Pedestrians* Involved in Casualty Collisions:

1995

Condition of Pedestrian	Pedestrians in Fatal Collisions N	%	Pedestrians in Injury Collisions N	%	Total Pedestrians in Casualty Collisions N	%
Normal	17	44.7	686	77.6	703	76.2
Had Been Drinking	13	34.2	69	7.8	82	8.9
Alcohol Impaired	6	15.8	53	6.0	59	6.4
Total Alcohol Involvement	**19**	**50.0**	**122**	**13.8**	**141**	**15.3**
Impaired by Drugs	---	---	1	0.1	1	0.1
Fatigued/Asleep	1	2.6	---	---	1	0.1
Other	1	2.6	75	8.5	76	8.2
Total Number of Pedestrians	**38**	**100.0**	**884**	**100.0**	**922**	**100.0**

Observations

Of pedestrians involved in injury collisions, 13.8% had consumed alcohol before the collision, compared to 50.0% involved in fatal collisions. As the severity of the collision increased, the involvement of alcohol increased dramatically.

*Based only on those cases where pedestrian condition was specified on the collision report form.

Table 8.8

Age of Drinking Pedestrians* Involved in Casualty Collisions:

1995

Age in Years	N	%	Rate per 10,000 Population**
Under 10	---	---	---
10 - 14	1	0.7	0.0
15 - 19	18	12.8	0.9
20 - 24	22	15.6	1.1
25 - 29	20	14.2	0.9
30 - 34	21	14.9	0.8
35 - 44	29	20.6	0.6
45 - 54	14	9.9	0.4
55 - 64	13	9.2	0.6
65 and over	3	2.1	0.1
Unspecified			
Total Number of Pedestrian Casualties	**141**	**100.0**	

Observations

Of those pedestrians who had consumed alcohol prior to the collision, the highest rate of involvement per 10,000 population was for the age group 20-24 years of age.

*Based on those cases where Pedestrian Condition was specified on the collision report form.

**Source: Based on estimates of the Alberta population by age groups and sex, July 1, 1995, Statistics Canada.

Bicyclists

- Casualty collisions involving bicycles were more likely to occur between the months of May and September.
- Weekdays experienced the most casualty collisions involving bicycles. As well, the largest number of these crashes (41.7%) occurred during the evening rush-hour period.
- Young bicyclists, 10-14 years of age, were the group most frequently involved in bicycle casualty crashes.
- An improper action on the part of the bicyclist was recorded for approximately 66.1% of those involved in casualty crashes. Compared to operators of all vehicles in casualty collisions, bicyclists were more likely to fail to yield right-of-way at an uncontrolled intersection, disobey a traffic signal, or be left of center.
- Only 4.4% of bicyclists involved in casualty collisions had consumed alcohol before the crash.

Table 9.1

Casualty Collisions Involving Bicycles:

Month of Occurrence

1995

Month	N	%
January	4	0.6
February	12	1.8
March	16	2.3
April	40	5.9
May	98	14.4
June	123	18.1
July	107	15.7
August	89	13.1
September	107	15.7
October	61	9.0
November	14	2.1
December	10	1.5
Total Number of Collisions	**681**	**100.0**

Observations

The majority of casualty crashes involving bicycles occurred during the months of May to September.

Table 9.2

Casualty Collisions Involving Bicycles:

Day of Week

1995

Day of Week	N	%
Monday	86	12.6
Tuesday	122	17.9
Wednesday	121	17.8
Thursday	111	16.3
Friday	115	16.9
Saturday	60	8.8
Sunday	65	9.5
Unspecified	1	0.1
Total Number of Collisions	**681**	**100.0**

Observations

Casualty collisions involving bicycles were more likely to occur on weekdays.

Table 9.3

Casualty Collisions Involving Bicycles:

Time Period

1995

Time Period	N	%
11:00 p.m. - 2:59 a.m.	24	3.5
3:00 a.m. - 6:59 a.m.	9	1.3
7:00 a.m. - 10:59 a.m.	92	13.5
11:00 a.m. - 2:59 p.m.	140	20.6
3:00 p.m. - 6:59 p.m.	284	41.7
7:00 p.m. - 10:59 p.m.	120	17.6
Unspecified	12	1.8
Total Number of Collisions	**681**	**100.0**

Observations

The largest proportion of casualty crashes (41.7%) involving bicycles occurred during the evening rush-hour period of 3:00 p.m. - 6:59 p.m.

Table 9.4

Age and Sex of Bicyclists Involved in Casualty Collisions:

1995

Age of Bicyclist	Male		Female		Total*	
	N	%	N	%	N	%
Under 5	5	0.7	2	0.3	7	1.0
5 - 9	49	7.2	25	3.7	75	11.0
10 - 14	134	19.6	52	7.6	189	27.6
15 - 19	71	10.4	26	3.8	97	14.2
20 - 24	74	10.8	22	3.2	96	14.0
25 - 29	46	6.7	5	0.7	52	7.6
30 - 34	43	6.3	10	1.5	53	7.7
35 - 44	38	5.6	9	1.3	47	6.9
45 - 54	19	2.8	7	1.0	26	3.8
55 - 64	8	1.2	4	0.6	12	1.8
65 and over	5	0.7	1	0.1	6	0.9
Unspecified	13	1.9	6	0.9	24	3.5
Total Number of Bicyclists	**505**	**73.8**	**169**	**24.7**	**684**	**100.0**

Observations

The majority of bicycle casualty collisions involved male bicyclists. The 10-14 year old age group was most frequently involved in these collisions.

*Total includes bicyclists whose sex was not specified on the collision report form.

Table 9.5

Action of Bicyclists Involved in Casualty Collisions:

1995

Action of Bicyclist	N	%	Driver Action In Total Casualty Collisions (All Vehicle Types) %
Driving Properly	185	33.9	51.2
Failed to Yield Right of Way Uncontrolled Intersection	52	9.5	1.2
Disobey Traffic Signal	37	6.8	4.0
Stop Sign Violation	26	4.8	4.2
Left Turn Across Path	21	3.9	5.7
Left of Center	18	3.3	1.4
Improper Lane Change	9	1.7	1.1
Improper Passing	7	1.3	0.6
Yield Sign Violation	7	1.3	1.1
Improper Turn	5	0.9	0.8
Ran Off Road	4	0.7	7.0
Followed Too Closely	3	0.6	10.2
Failed to Yield Right of Way to Pedestrian	3	0.6	1.5
Backed Unsafely	1	0.2	1.1
Other	167	30.6	8.7
Total Number of Bicyclists	**545**	**100.0**	

Observations

An improper action on the part of the bicyclist was recorded for 66.1% of those involved in casualty crashes. Compared to operators of all vehicles in casualty collisions, bicyclists were more likely to fail to yield right of way at an uncontrolled intersection, disobey a traffic signal, or be left of center.

*Based on those cases where driver action was specified on the collision report form.

Table 9.6

Condition of Bicyclists Involved in Casualty Collisions:

1995

Condition of Bicyclist	N	%
Normal	564	91.4
Had Been Drinking	17	2.8
Alcohol Impaired	10	1.6
Total Alcohol Involvement	**27**	**4.4**
Other	26	4.2
Total Number of Bicyclists	**617**	**100.0**

Observations

Only 4.4% of bicyclists involved in casualty collisions had consumed alcohol before the crash.

*Based on those cases where bicyclist condition was specified on the collision report form.

Traffic Safety Issues

Alcohol Involvement

- A total of 6.2% of drivers involved in injury crashes were judged to have consumed alcohol prior to the crash, compared to 20.4% of drivers involved in fatal collisions. As the severity of the collision increased, the involvement of alcohol dramatically increased.
- In terms of involvement per 1,000 licensed drivers, males between 18 and 21 years of age were most likely to have been drinking before the crash. There were over five times as many male drivers as female drivers who had consumed alcohol prior to the collision.
- In 1995, alcohol related casualty crashes were most likely to have occurred in August, on Saturday, and between 11:00 p.m. and 2:59 a.m.
- Figure 8 provides a graphic representation of the involvement of drinking drivers in casualty collisions over the past five years, 1991-1995.

Table 10.1

Condition of Drivers in Casualty Collisions*

1995

Condition of Driver	Drivers in Fatal Collisions N	%	Drivers in Non-Fatal Injury Collisions N	%	Total Drivers in Casualty Collisions N	%
Normal	312	75.7	19000	89.3	19312	89.1
Had Been Drinking	51	12.4	690	3.2	741	3.4
Alcohol Impaired	33	8.0	626	2.9	659	3.0
Total Alcohol Involvement	**84**	**20.4**	**1316**	**6.2**	**1400**	**6.5**
Impaired by Drugs	1	0.2	22	0.1	23	0.1
Fatigued/Asleep	8	1.9	186	0.9	194	0.9
Other	7	1.7	748	3.5	755	3.5
Total Number of Drivers	**412**	**100.0**	**21272**	**100.0**	**21684**	**100.0**

Observations

Of drivers involved in injury collisions, 6.2% had consumed alcohol before the crash, compared to 20.4% in fatal collisions. As the severity of the collision increased, the involvement of alcohol dramatically increased. Overall, 6.5% of drivers involved in casualty collisions were judged to have consumed alcohol before the crash.

*Based on those cases where driver condition was specified on the collision report form. These numbers do not include bicyclists (see Table 9.6, page 65).

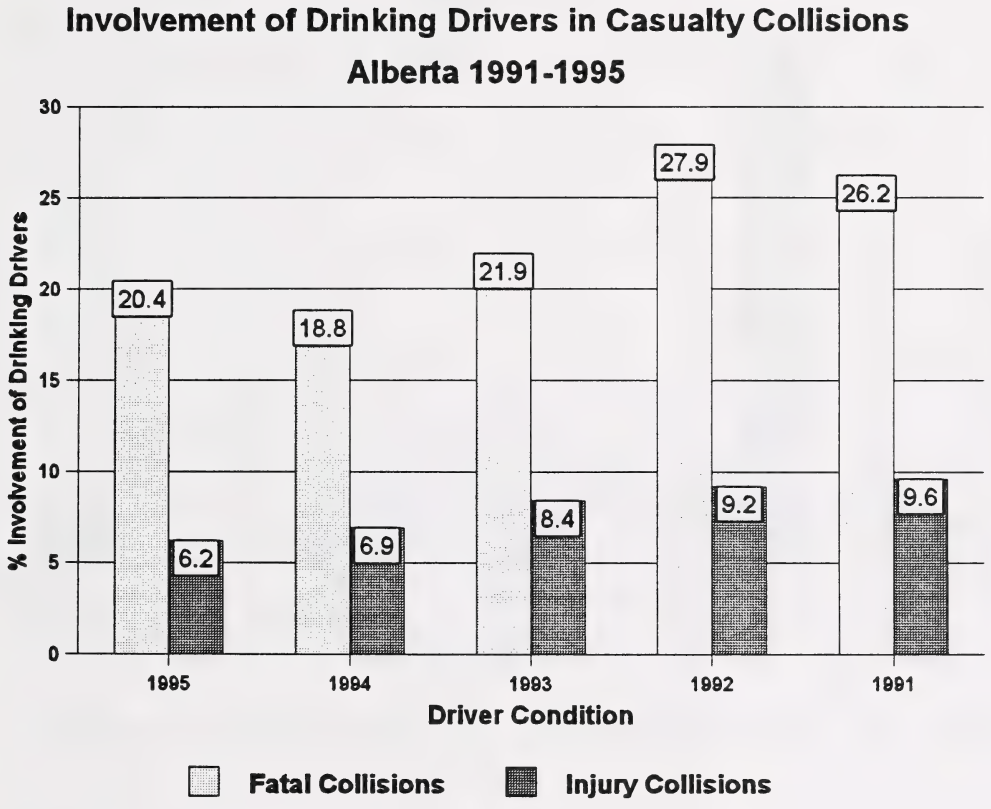

Involvement of Drinking Drivers in Casualty Collisions
Alberta 1991-1995
% Involvement of Drinking Drivers
30
25
20
15
10
5
0
20.4
6.2
18.8
6.9
21.9
8.4
27.9
9.2
26.2
9.6
1995
1994
1993
1992
1991
Driver Condition
Fatal Collisions
Injury Collisions

Figure 8

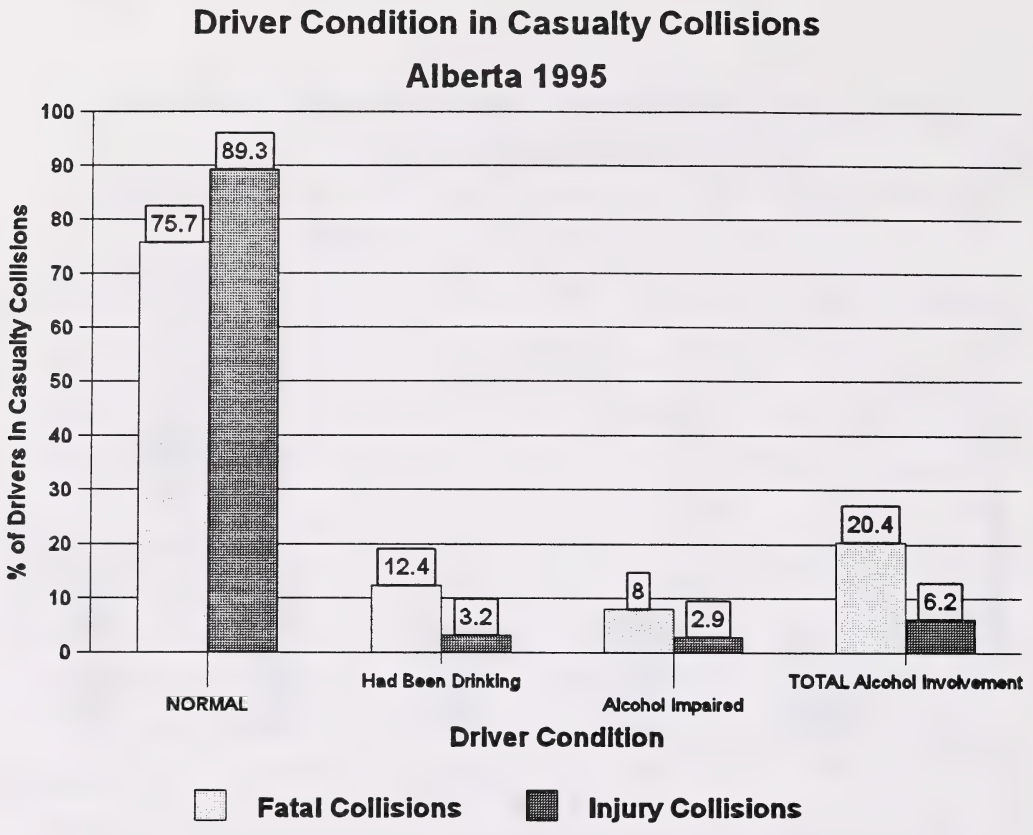

Driver Condition in Casualty Collisions
Alberta 1995
% of Drivers In Casualty Collisions
100
90
80
70
60
50
40
30
20
10
0
75.7
89.3
12.4
3.2
8
2.9
20.4
6.2
NORMAL
Had Been Drinking
Alcohol Impaired
TOTAL Alcohol Involvement
Driver Condition
Fatal Collisions
Injury Collisions

Figure 9

Table 10.2

Age and Sex of Drinking Drivers in Casualty Collisions:

1995

Age in Years	Male N	Male %	Rate Per 1000** Licensed Drivers	Female N	Female %	Rate Per 1000** Licensed Drivers	Total* N	Total* %	Rate Per 1000** Licensed Drivers
Under 16	5	0.4	0.3	3	0.2	0.3	8	0.6	0.3
16 - 17	34	2.4	1.1	18	1.3	0.7	52	3.7	0.9
18 - 19	110	7.9	2.8	32	2.3	0.9	142	10.1	1.9
20 - 21	119	8.5	3.1	13	0.9	0.4	132	9.4	1.7
22 - 24	136	9.7	2.1	23	1.6	0.4	159	11.4	1.3
25 - 29	197	14.1	1.7	31	2.2	0.3	228	16.3	1.0
30 - 34	180	12.9	1.3	35	2.5	0.3	215	15.4	0.8
35 - 44	230	16.4	0.9	44	3.1	0.2	275	19.6	0.5
45 - 54	93	6.6	0.5	12	0.9	0.1	105	7.5	0.3
55 - 64	47	3.4	0.4	1	0.1	0.0	48	3.4	0.3
65 and over	19	1.4	0.2	1	0.1	0.0	20	1.4	0.1
Unspecified	5	0.4		1	0.1		16	1.1	
Total Drivers	**1175**	**83.9**		**214**	**15.3**		**1400**	**100.0**	

Observations

Of those collision-involved drivers who had consumed alcohol, there were over five times as many male drivers as female drivers. The majority were male drivers under the age of 45. In terms of involvement per 1,000 licensed drivers, males 18-21 years of age are more likely to have consumed alcohol prior to a casualty collision than any other age group.

Drinking drivers include those indicated on the collision report form as having been drinking prior to the crash and those who were alcohol-impaired at the time of the crash. Whether or not the driver was actually charged is not taken into consideration by the collision report form.

*Includes only drivers whose age and/or sex was specified on the collision report form. Total includes drinking drivers whose sex was not specified on the collision report form.

**Source: Alberta Registries - Motor Vehicles. Operator Statistics, December 31, 1995.

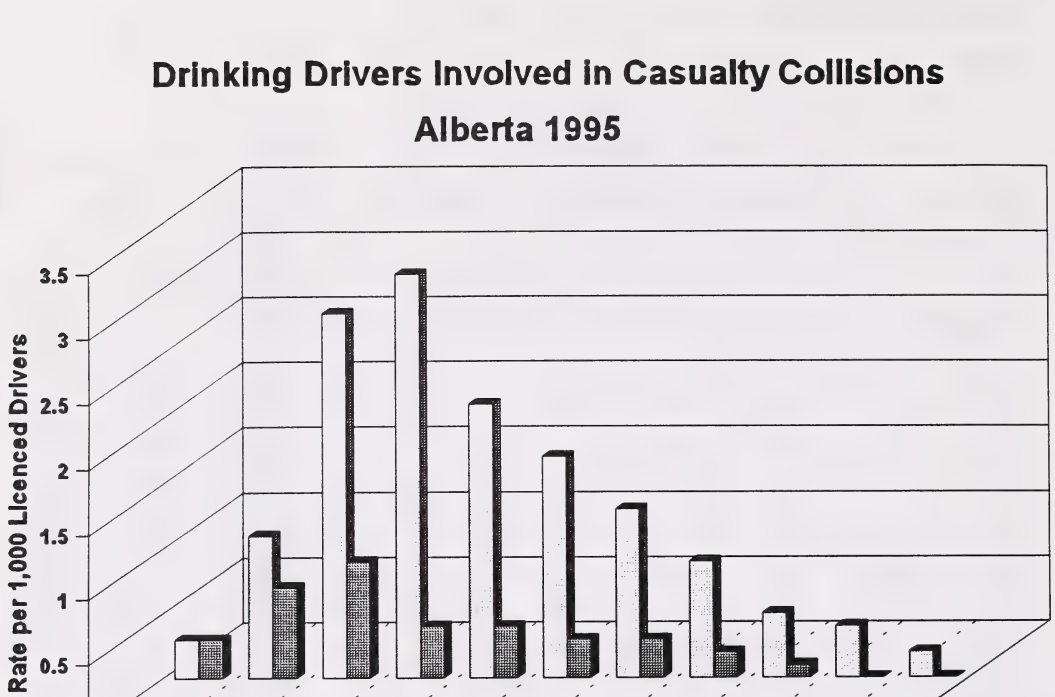

Drinking Drivers Involved in Casualty Collisions
Alberta 1995
Rate per 1,000 Licenced Drivers
3.5
3
2.5
2
1.5
1
0.5
0
Under 16
16 - 17
18 - 19
20 - 21
22 - 24
25 - 29
30 - 34
35 - 44
45 - 54
55 - 64
65+
Age in Years
Male
Female

Figure 10

Table 10.3

Alcohol-Involved Casualty Collisions:

Month of Occurrence

1995

	Fatal Collisions		Non-Fatal Injury Collisions		Total Casualty Collisions	
Month	**N**	**%**	**N**	**%**	**N**	**%**
January	4	4.8	91	7.0	95	6.9
February	4	4.8	87	6.7	91	6.6
March	7	8.4	89	6.9	96	7.0
April	5	6.0	114	8.8	119	8.7
May	7	8.4	106	8.2	113	8.2
June	9	10.8	129	10.0	138	10.0
July	12	14.5	119	9.2	131	9.5
August	8	9.6	147	11.4	155	11.3
September	11	13.3	135	10.4	146	10.6
October	11	13.3	102	7.9	113	8.2
November	4	4.8	84	6.5	88	6.4
December	1	1.2	88	6.8	89	6.5
Unspecified	---	---	1	0.1	1	0.1
Total Number of Collisions	**83**	**100.0**	**1292**	**100.0**	**1375**	**100.0**

Observations

The month of August accounted for the largest proportion of alcohol-involved casualty collisions. The months of November and December accounted for the smallest proportion of alcohol-involved casualty collisions.

Table 10.4

Alcohol-Involved Casualty Collisions:

Day of Week

1995

Day of Week	Fatal Collisions N	Fatal Collisions %	Non-Fatal Injury Collisions N	Non-Fatal Injury Collisions %	Total Casualty Collisions N	Total Casualty Collisions %
Monday	7	8.4	89	6.9	96	7.0
Tuesday	11	13.3	128	9.9	139	10.1
Wednesday	7	8.4	127	9.8	134	9.7
Thursday	11	13.3	161	12.5	172	12.5
Friday	16	19.3	227	17.6	243	17.7
Saturday	18	21.7	329	25.5	347	25.2
Sunday	13	15.7	229	17.7	242	17.6
Unspecified	---	---	2	0.2	2	0.1
Total Number of Collisions	**83**	**100.0**	**1292**	**100.0**	**1375**	**100.0**

Observations

The highest number of alcohol-involved fatal collisions occurred on Fridays and Saturdays (19.3% and 21.7%). The highest number of non-fatal injury collisions occurred on Saturdays (25.5%). The smallest number of alcohol-involved casualty collisions occurred on Mondays.

Table 10.5

Alcohol-Involved Casualty Collisions:

Time Period

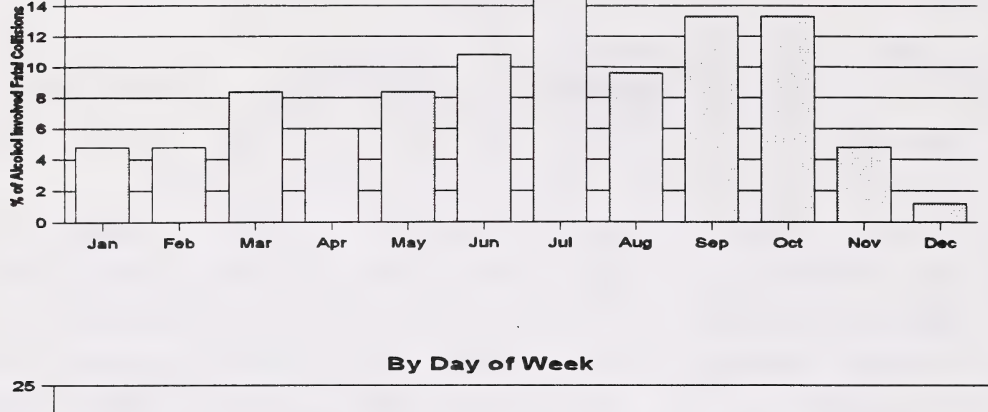
1995

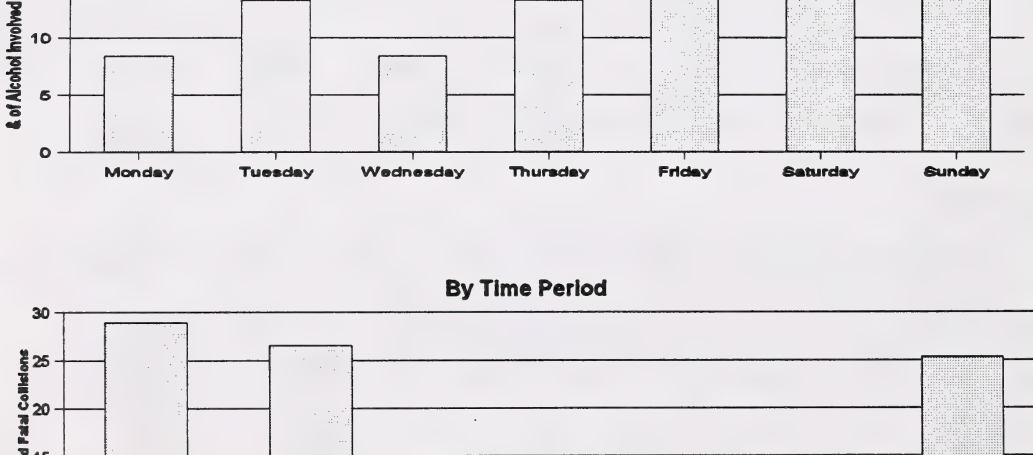
	Fatal Collisions		Non-Fatal Injury Collisions		Total Casualty Collisions	
Time of Day	**N**	**%**	**N**	**%**	**N**	**%**
11:00 p.m. - 2:59 a.m.	24	28.9	425	32.9	449	32.7
3:00 a.m. - 6:59 a.m.	22	26.5	189	14.6	211	15.3
7:00 a.m. - 10:59 a.m.	2	2.4	56	4.3	58	4.2
11:00 a.m. - 2:59 p.m.	3	3.6	63	4.9	66	4.8
3:00 p.m. - 6:59 p.m.	8	9.6	200	15.5	208	15.1
7:00 p.m. - 10:59 p.m.	21	25.3	327	25.3	348	25.3
Unspecified	3	3.6	32	2.5	35	2.5
Total Number of Collisions	**83**	**100.0**	**1292**	**100.0**	**1375**	**100.0**

Observations

The late night/early morning time period (11:00 p.m. - 2:59 a.m.) was most likely to record alcohol-involved casualty collisions (32.7%). The morning hours (7:00 a.m. - 10:59 a.m.) were least likely to record alcohol-involved casualty crashes (4.2%).

Alcohol Involved Fatal Collisions
Alberta 1995





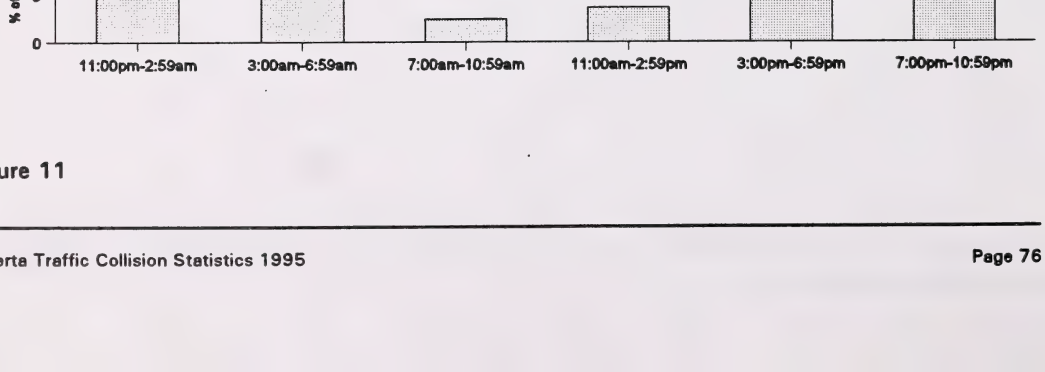


Figure 11

Traffic Safety Issues

Restraint Use

- Collision involved restraint users had a much lower injury rate (13.6%) than those not using restraints (37.3%).
- Non-restraint users were more than twice as likely as restraint users to be injured.

Table 10.6

Restraint Use of Occupants and Injury Severity* 1995

Injury Severity	Using Restraints %	Not Using Restraints %
Fatal	0.1	2.5
Major	1.2	9.6
Minor	12.3	25.2
Total Non-Fatal Injuries	**13.6**	**37.3**
No Apparent Injury	86.4	62.7
Total	**100.0**	**100.0**

Observations

Collision involved restraint users had a much lower injury rate (13.6%) than those not using restraints (37.3%). Non-restraint users were more than twice as likely as restraint users to be injured.

Injury Severity

Fatal - A fatal injury is a death of a person that occurs as a result of a motor vehicle collision within 30 days of the collision.

Major - Persons with injuries or complaint of pain that went to the hospital and were subsequently admitted even if for observation only.

Minor - Persons with injuries or complaint of pain that went to the hospital, were treated in emergency (or refused treatment) and SENT HOME without ever being admitted to the hospital. (Also includes persons who indicate they intend to seek medical attention).

*Based on those cases where occupant restraint use and injury severity were specified on the collision report form.